

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E00076EN	TCDS NUMBER E00076EN		
	DATE: September 19, 2019		
	Revision 20		
	ROLLS-ROYCE DEUTSCHLAND LTD & CO KG		
	MODELS:		
	Trent 1000-A	Trent 1000-D2	Trent 1000-J3
	Trent 1000-AE	Trent 1000-E2	Trent 1000-K3
	Trent 1000-C	Trent 1000-G2	Trent 1000-L3
	Trent 1000-CE	Trent 1000-H2	Trent 1000-M3
	Trent 1000-D	Trent 1000-J2	Trent 1000-N3
	Trent 1000-E	Trent 1000-K2	Trent 1000-P3
	Trent 1000-G	Trent 1000-L2	Trent 1000-Q3
	Trent 1000-H	Trent 1000-AE3	Trent 1000-R3
Trent 1000-A2	Trent 1000-CE3	Trent7000-72	
Trent 1000-AE2	Trent 1000-D3	Trent7000-72C	
Trent 1000-C2	Trent 1000-G3		
Trent 1000-CE2	Trent 1000-H3		

Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E00076EN) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER: Rolls-Royce Deutschland Ltd & Co KG
Eschenweg 11. 15827 Blankenfelde-Mahlow, Germany

TYPE CERTIFICATE (TC) RECORD: Rolls-Royce plc transferred TC E00076EN to
Rolls-Royce Deutschland on February 21, 2019

TYPE	<p>The engine is a three shaft high bypass ratio, axial flow, turbofan with low pressure, intermediate pressure and high pressure compressors driven by separate turbines through coaxial shafts. The LP compressor fan diameter is 112 inches with a swept fan blade and outlet guide vanes. The combustion system consists of a single annular combustor with 18 fuel spray nozzles. The LP and IP assemblies rotate independently in a counter clockwise direction; the HP assembly rotates clockwise, when viewed from back of the engine looking forward. The compressor and turbine have the following features:</p> <table border="0"> <tr> <td style="text-align: center;"><u>Compressor</u></td><td style="text-align: center;"><u>Turbine</u></td></tr> <tr> <td>LP - single stage</td><td>LP - 6 stage</td></tr> <tr> <td>IP - 8 stage</td><td>IP - single stage</td></tr> <tr> <td>HP - 6 stage</td><td>HP - single stage</td></tr> </table> <p>The engine control system utilizes an electronic engine controller (EEC) which has an airframe interface for digital bus communications. An engine monitoring unit (EMU) is fitted to provide vibration signals to the aircraft.</p>	<u>Compressor</u>	<u>Turbine</u>	LP - single stage	LP - 6 stage	IP - 8 stage	IP - single stage	HP - 6 stage	HP - single stage
<u>Compressor</u>	<u>Turbine</u>								
LP - single stage	LP - 6 stage								
IP - 8 stage	IP - single stage								
HP - 6 stage	HP - single stage								

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LEGEND: "- -" INDICATES "SAME AS PRECEDING MODEL"
"---" INDICATES "NOT APPLICABLE"

I . MODELS	Trent 1000-A Trent 1000-AE Trent 1000-A2 Trent 1000-AE2 Trent 1000-AE3	Trent 1000-C Trent 1000-CE Trent 1000-C2 Trent 1000-CE2 Trent 1000-CE3 Trent 1000-D Trent 1000-D2 Trent 1000-D3 Trent 1000-L2 Trent 1000-L3 Trent 1000-P3	Trent 1000-E Trent 1000-E2	Trent 1000-G Trent 1000-G2 Trent 1000-G3	Trent 1000-H Trent 1000-H2 Trent 1000-H3
RATINGS (See NOTE 1)					
Takeoff (5 min) Thrust, (net) - lbf (See NOTE 13)	69,194	74,511	59,631	72,066	63,897
Maximum continuous Thrust, (net) - lbf	64,722	69,523	58,866	64,722	58,866
PRINCIPAL DIMENSIONS, inches					
Length - tip of spinner to rear of cold nozzle	187.8	--	--	--	--
Radius – from centerline not including drain mast	74.8	--	--	--	--
CENTER OF GRAVITY, Wet, inches					
Trent 1000 Without Service Bulletin 72-G319 or Modification 72-G319					
Offset from the center of front engine mount (power plant station 3000mm).	31.0 (A)	31.0 (C,D)	31.0 (E)	31.0 (G)	31.0 (H)
Offset from Horizontal Centerline	0.7 (A)	0.7 (C,D)	0.7 (E)	0.7 (G)	0.7 (H)
Offset from Vertical Centerline	-3.3 (A)	-3.3 (C,D)	-3.3 (E)	-3.3 (G)	-3.3 (H)

I . MODELS	Trent 1000-A Trent 1000-AE Trent 1000-A2 Trent 1000-AE2 Trent 1000-AE3	Trent 1000-C Trent 1000-CE Trent 1000-C2 Trent 1000-CE2 Trent 1000-CE3 Trent 1000-D Trent 1000-D2 Trent 1000-D3 Trent 1000-L2 Trent 1000-L3 Trent 1000-P3	Trent 1000-E Trent 1000-E2	Trent 1000-G Trent 1000-G2 Trent 1000-G3	Trent 1000-H Trent 1000-H2 Trent 1000-H3
Offset from the center of front engine mount (power plant station 3000mm).	31.7 (A, AE) 31.6 (A2, AE2) 31.9 (AE3)	31.7 (C, CE, D) 31.6 (C2, CE2, D2, L2) 31.9 (CE3, D3, L3, P3)	31.7 (E) 31.6 (E2)	31.7 (G) 31.6 (G2) 31.9 (G3)	31.7 (H) 31.6 (H2) 31.9 (H3)
Offset from Horizontal Centerline	0.6 (A, AE) 0.7 (A2, AE2) 0.8 (AE3)	0.6 (C, CE, D) 0.7 (C2, CE2, D2, L2) 0.8 (CE3, D3, L3, P3)	0.6 (E) 0.7 (E2)	0.6 (G) 0.7 (G2) 0.8 (G3)	0.6 (H) 0.7 (H2) 0.8 (H3)
Offset from Vertical Centerline	-3.4 (A,AE) -3.1 (A2,AE2) -2.9 (AE3)	-3.4 (C, CE, D) -3.1 (C2, CE2, D2, L2) -2.9 (CE3, D3, L3, P3)	-3.4 (E) -3.1 (E2)	-3.4 (G) -3.1 (G2) -2.9 (G3)	-3.4 (H) -3.1 (H2) -2.9 (H3)
WEIGHT Dry with nacelle engine build-up items (lbs)					
Trent 1000-A, -C, -D, -E, -G, and -H Without Service Bulletin 72-G319 or Modification 72-G319	13,087 (A)	13,087 (C, D)	13,087 (E)	13,087 (G)	13,087 (H)
Trent 1000-	13,300 (A, AE) 13,111 (A2, AE2) 13,479 (AE3)	13,300 (C, CE, D) 13,111 (C2, CE2, D2, L2) 13,479 (CE3, D3, L3, P3)	13,300 (E) 13,111 (E2)	13,300 (G) 13,111 (G2) 13,479 (G3)	13,300 (H) 13,111 (H2) 13,479 (H3)

I. MODELS	Trent 1000-A Trent 1000-AE Trent 1000-A2 Trent 1000-AE2 Trent 1000-AE3	Trent 1000-C Trent 1000-CE Trent 1000-C2 Trent 1000-CE2 Trent 1000-CE3 Trent 1000-D Trent 1000-D2 Trent 1000-D3 Trent 1000-L2 Trent 1000-L3 Trent 1000-P3	Trent 1000-E Trent 1000-E2	Trent 1000-G Trent 1000-G2 Trent 1000-G3	Trent 1000-H Trent 1000-H2 Trent 1000-H3
ENGINE BUILD STANDARD Rolls-Royce Drawing Introduction Sheet (DIS)	Trent 1000-A 2286 Issue 3 Trent 1000-AE 2374 Issue 2 Trent 1000-A2 2327 Issue 3 Trent 1000-AE2 2376 Issue 2 Trent 1000-AE3 2372 Issue 3	Trent 1000-C 2287 Issue 3 Trent 1000-CE 2375 Issue 3 Trent 1000-C2 2328 Issue 3 Trent 1000-CE2 2377 Issue 2 Trent 1000-CE3 2373 Issue 3 Trent 1000-D 2288 Issue 3 Trent 1000-D2 2329 Issue 3 Trent 1000-D3 2357 Issue 3 Trent 1000-L2 2335 Issue 3 Trent 1000-L3 2364 Issue 3 Trent 1000-P3 2368 Issue 3	Trent 1000-E 2289 Issue 3 Trent 1000-E2 2330 Issue 3	Trent 1000-G 2291 Issue 3 Trent 1000-G2 2331 Issue 3 Trent 1000-G3 2360 Issue 3	Trent 1000-H 2292 Issue 3 Trent 1000-H2 2332 Issue 3 Trent 1000-H3 2361 Issue 3

I. MODELS	Trent 1000-J2 Trent 1000-J3 Trent 1000-K2 Trent 1000-K3 Trent 1000-Q3	Trent 1000-M3 Trent 1000-N3	Trent 1000-R3	Trent7000-72 Trent7000-72C
RATINGS (See NOTE 1)				
Takeoff (5 min) Thrust, (net) - lbf (See NOTE 13)	78,129	79,728	81,028	72,834
Maximum continuous Thrust, (net) - lbf	71,818	72,691	72,691	65,005

I. MODELS	Trent 1000-J2 Trent 1000-J3 Trent 1000-K2 Trent 1000-K3 Trent 1000-Q3	Trent 1000-M3 Trent 1000-N3	Trent 1000-R3	Trent7000-72 Trent7000-72C
PRINCIPAL DIMENSIONS, inches				
Length - tip of spinner to rear of cold nozzle	187.8	--	--	188.0
Radius – from centerline not including drain mast	74.8	--	--	72.3
CENTER OF GRAVITY, Wet, inches				
Offset from the center of front engine mount (power plant station 3000mm).	31.6 (J2, K2) 31.9 (J3, K3, Q3)	31.9	31.9	30.1
Offset from Horizontal Centerline	0.7 (J2, K2) 0.8 (J3, K3, Q3)	0.8	0.8	1.3
Offset from Vertical Centerline	-3.1 (J2, K2) -2.9 (J3, K3, Q3)	-2.9	-2.9	-3.4
WEIGHT Dry with nacelle engine build-up items (lbs)	13,111 (J2, K2) 13,479 (J3, K3, Q3)	13,479	13,479	14,200
ENGINE BUILD STANDARD Rolls-Royce Drawing Introduction Sheet (DIS)	Trent 1000-J2 2333 Issue 3 Trent 1000-J3 2362 Issue 3 Trent 1000-K2 2334 Issue 3 Trent 1000-K3 2363 Issue 3 Trent 1000-Q3 2370 Issue 3	Trent 1000-M3 2365 Issue 3 Trent 1000-N3 2367 Issue 3	Trent 1000-R3 2369 Issue 3	Trent7000-72 2379 Issue 2 + MB 73-K233 MB 72-K200 MB 72-K150 Trent7000-72C 2378 Issue 1 + MB 73-K233 MB 72-K200 MB 72-K150

APPROVED FUELS	See Engine Operating Instructions for approved fuels and additives.
APPROVED OILS	See Engine Operating Instructions for approved oils.
OIL CONSUMPTION	All engine models except the Trent7000-72 and Trent7000-72C Maximum 0.63 U.S. Quarts per hour. Trent7000-72, Trent7000-72C Maximum 0.48 U.S. Quarts per hour.
EQUIPMENT	For details of equipment included in the type design definition refer to the Installation manual. For details of equipment supplied by the Airframe TC holder, refer to the installation manual. A thrust reverser unit is not part of the engine type design and is certified as part of the aircraft type design. The engine is approved for operation with a thrust reverser unit.

CERTIFICATION BASIS	
<p>Trent 1000-A, -C, -D, -E, -G, and -H Without Service Bulletin 72-G319 or Modification 72-G319</p>	<p><u>Airworthiness Standards:</u> 14 CFR part 33 effective February 1, 1965, as amended by 33-1 through 33-21.</p> <p><u>Emissions Standards:</u> 14 CFR part 34, Amendment 5A, effective October 23, 2013. In addition, the engine meets ICAO environmental standards defined in Annex 16, amendment 7, dated November 17, 2011. See NOTE 11 for a detailed summary of the certification basis for fuel venting and exhaust emissions.</p> <p>Pursuant to 14 CFR § 21.29(a)(1)(ii), the Type Certificate was issued in validation of the European Aviation Safety Agency (EASA) Certification Standards CS-E, original issue dated October 24, 2003, which were found to provide a level of safety equivalent to that provided by 14 CFR Part 33 effective February 1, 1965, as amended by 33-1 through 33-21.</p>
<p>Trent 1000-A, -C, -D, -E, -G, and -H With Service Bulletin 72-G319 or Modification 72-G319</p>	<p><u>Airworthiness Standards:</u> 14 CFR part 33 effective February 1, 1965, as amended by 33-1 through 33-21. With an Exemption to § 33.27(c)(2)(v), amendment 33-10, No. 17864 dated June 13, 2018.</p> <p><u>Emissions Standards:</u> 14 CFR part 34, Amendment 5A, effective October 23, 2013. In addition, the engine meets ICAO environmental standards defined in Annex 16, amendment 7, dated November 17, 2011. See NOTE 11 for a detailed summary of the certification basis for fuel venting and exhaust emissions.</p> <p>Pursuant to 14 CFR § 21.29(a)(1)(ii), the Type Certificate was issued in validation of the European Aviation Safety Agency (EASA) Certification Standards CS-E, original issue dated October 24, 2003, and CS-E 1030 and CS-E 1040 amendment 3, which were found to provide a level of safety equivalent to that provided by 14 CFR Part 33 effective February 1, 1965, as amended by 33-1 through 33-21.</p>
<p>Trent 1000-A2, -C2, -D2, -E2, -G2, -H2, -J2, -K2, and -L2</p>	<p><u>Airworthiness Standards:</u> 14 CFR part 33, effective February 1, 1965, as amended by 33-1 through 33-21 and amendment 31 § 33.27. With an Exemption to § 33.27(f)(6), amendment 33-31, No. 17413 dated July 28, 2017.</p> <p><u>Emissions Standards:</u> 14 CFR part 34, Amendment 5A, effective October 23, 2013. In addition, the engine meets ICAO environmental standards defined in Annex 16, amendment 7, dated November 17, 2011. See NOTE 11 for a detailed summary of the certification basis for fuel venting and exhaust emissions.</p>
<p>Trent 1000-AE3, -CE3, -D3, -G3, -H3, -J3, -K3, -L3, -M3, -N3, -P3, -Q3, and -R3</p>	<p><u>Airworthiness Standards:</u> 14 CFR part 33, effective February 1, 1965, as amended by 33-1 through 33-21 and amendment 31 § 33.27. With an Exemption to § 33.27(f)(6), amendment 33-31, No. 17413 dated July 28, 2017 and an Exemption to §§ 33.14, amendment 33-10; and 33.83(d), amendment 33-17; No. 18082 dated December 13, 2018.</p> <p><u>Emissions Standards:</u> 14 CFR part 34, Amendment 5A, effective October 23, 2013. In addition, the engine meets ICAO environmental standards defined in Annex 16, amendment 7, dated November 17, 2011. See NOTE 11 for a detailed summary of the certification basis for fuel venting and exhaust emissions.</p> <p>Equivalent level of Safety (ELOS) Findings:</p> <ul style="list-style-type: none"> • ELOS No. AT03561EN-E-P-9 to 14 CFR 33.78(a)(1) • ELOS No. AT03561EN-E-P-16 to 14 CFR 33.83(a), (b) and (c) • ELOS No. AT03561EN-E-P-19 to 14 CFR 33.27(d) • ELOS No. AT03561EN-E-P-21 to 14 CFR 33.201(c) and (e). <p>Pursuant to 14 CFR § 21.29(a)(1)(ii), the Type Certificate was issued in validation of the European Aviation Safety Agency (EASA) Certification Standards CS-E, original issue dated October 24, 2003, and CS-E 1030 and CS-E 1040 amendment 3, which were found to provide a level of safety equivalent to that provided by 14 CFR Part 33 effective February 1, 1965, as amended by 33-1 through 33-31.</p>
<p>Trent 1000-AE, -CE, -AE2, -CE2</p>	<p><u>Airworthiness Standards:</u> 14 CFR part 33, effective February 1, 1965, as amended by 33-1 through 33-21 and amendment 31 § 33.27. With an Exemption to § 33.27(f)(6), amendment 33-31, No. 17413 dated July 28, 2017.</p> <p><u>Emissions Standards:</u> 14 CFR part 34, Amendment 5A, effective October 23, 2013. In addition, the engine meets ICAO environmental standards defined in Annex 16, amendment 7, dated November 17, 2011. See NOTE 11 for a detailed summary of the certification basis for fuel venting and exhaust emissions.</p> <p>Equivalent level of Safety (ELOS) Findings:</p> <ul style="list-style-type: none"> • ELOS No. AT03561EN-E-P-19 to 14 CFR 33.27(d)

Trent7000-72, -72C	<p><u>Airworthiness Standards:</u> 14 CFR part 33, effective February 1, 1965, as amended by 33-1 through 33-21, amendment 26 §33.28 and amendment 31 § 33.27. With an Exemption to § 33.27(f)(6), amendment 33-31, No. 17413 dated July 28, 2017 and a Time Limited Exemption to §§ 33.14, amendment 33-10; and 33.83(d), amendment 33-17; No. 18082 dated December 13, 2018.</p> <p><u>Emissions Standards:</u> 14 CFR part 34, Amendment 5A, effective October 23, 2013. In addition, the engine meets ICAO environmental standards defined in Annex 16, amendment 7, dated November 17, 2011. See NOTE 11 for a detailed summary of the certification basis for fuel venting and exhaust emissions.</p> <p>Equivalent level of Safety (ELOS) Findings:</p> <ul style="list-style-type: none">• ELOS No. AT03561EN-E-P-9 to 14 CFR 33.78(a)(1)• ELOS No. AT03561EN-E-P-16 to 14 CFR 33.83(a), (b) and (c)• ELOS No. AT03561EN-E-P-19 to 14 CFR 33.27(d)• ELOS No. AT03491EN-E-P-13 to 14 CFR 33.27(b)(3)• ELOS No. AT03591EN-E-P-21 to 14 CFR 33.93(a)(2) <p>Pursuant to 14 CFR § 21.29(a)(1)(ii), the Type Certificate was issued in validation of the European Aviation Safety Agency (EASA) Certification Standards CS-E, original issue dated October 24, 2003, and CS-E 1030 and CS-E 1040 amendment 3, which were found to provide a level of safety equivalent to that provided by 14 CFR Part 33 effective February 1, 1965, as amended by 33-1 through 33-31.</p>																																																																																																																																												
	<table><tr><th><u>MODEL</u></th><th><u>APPLICATION DATE</u></th><th><u>ISSUED</u></th><th><u>DELETED</u></th></tr><tr><td>Trent 1000-A</td><td>December 10, 2004</td><td>August 7, 2007</td><td></td></tr><tr><td>Trent 1000-AE</td><td>July 28, 2014</td><td>December 20, 2018</td><td></td></tr><tr><td>Trent 1000-C</td><td>December 10, 2004</td><td>August 7, 2007</td><td></td></tr><tr><td>Trent 1000-CE</td><td>July 28, 2014</td><td>December 20, 2018</td><td></td></tr><tr><td>Trent 1000-D</td><td>December 10, 2004</td><td>August 7, 2007</td><td></td></tr><tr><td>Trent 1000-E</td><td>December 10, 2004</td><td>August 7, 2007</td><td></td></tr><tr><td>Trent 1000-G</td><td>December 10, 2004</td><td>August 7, 2007</td><td></td></tr><tr><td>Trent 1000-H</td><td>December 10, 2004</td><td>August 7, 2007</td><td></td></tr><tr><td>Trent 1000-A2</td><td>June 11, 2012</td><td>May 9, 2014</td><td></td></tr><tr><td>Trent 1000-AE2</td><td>July 28, 2014</td><td>December 20, 2018</td><td></td></tr><tr><td>Trent 1000-C2</td><td>June 11, 2012</td><td>May 9, 2014</td><td></td></tr><tr><td>Trent 1000-CE2</td><td>July 28, 2014</td><td>December 20, 2018</td><td></td></tr><tr><td>Trent 1000-D2</td><td>June 11, 2012</td><td>May 9, 2014</td><td></td></tr><tr><td>Trent 1000-E2</td><td>June 11, 2012</td><td>May 9, 2014</td><td></td></tr><tr><td>Trent 1000-G2</td><td>June 11, 2012</td><td>May 9, 2014</td><td></td></tr><tr><td>Trent 1000-H2</td><td>June 11, 2012</td><td>May 9, 2014</td><td></td></tr><tr><td>Trent 1000-J2</td><td>June 11, 2012</td><td>May 9, 2014</td><td></td></tr><tr><td>Trent 1000-K2</td><td>June 11, 2012</td><td>May 9, 2014</td><td></td></tr><tr><td>Trent 1000-L2</td><td>June 11, 2012</td><td>May 9, 2014</td><td></td></tr><tr><td>Trent 1000-AE3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-CE3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-D3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-G3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-H3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-J3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-K3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-L3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-M3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-N3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-P3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-Q3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent 1000-R3</td><td>July 30, 2014</td><td>October 20, 2017</td><td></td></tr><tr><td>Trent7000-72</td><td>December 3, 2014</td><td>December 20, 2018</td><td></td></tr><tr><td>Trent7000-72C</td><td>December 3, 2014</td><td>December 20, 2018</td><td></td></tr></table>	<u>MODEL</u>	<u>APPLICATION DATE</u>	<u>ISSUED</u>	<u>DELETED</u>	Trent 1000-A	December 10, 2004	August 7, 2007		Trent 1000-AE	July 28, 2014	December 20, 2018		Trent 1000-C	December 10, 2004	August 7, 2007		Trent 1000-CE	July 28, 2014	December 20, 2018		Trent 1000-D	December 10, 2004	August 7, 2007		Trent 1000-E	December 10, 2004	August 7, 2007		Trent 1000-G	December 10, 2004	August 7, 2007		Trent 1000-H	December 10, 2004	August 7, 2007		Trent 1000-A2	June 11, 2012	May 9, 2014		Trent 1000-AE2	July 28, 2014	December 20, 2018		Trent 1000-C2	June 11, 2012	May 9, 2014		Trent 1000-CE2	July 28, 2014	December 20, 2018		Trent 1000-D2	June 11, 2012	May 9, 2014		Trent 1000-E2	June 11, 2012	May 9, 2014		Trent 1000-G2	June 11, 2012	May 9, 2014		Trent 1000-H2	June 11, 2012	May 9, 2014		Trent 1000-J2	June 11, 2012	May 9, 2014		Trent 1000-K2	June 11, 2012	May 9, 2014		Trent 1000-L2	June 11, 2012	May 9, 2014		Trent 1000-AE3	July 30, 2014	October 20, 2017		Trent 1000-CE3	July 30, 2014	October 20, 2017		Trent 1000-D3	July 30, 2014	October 20, 2017		Trent 1000-G3	July 30, 2014	October 20, 2017		Trent 1000-H3	July 30, 2014	October 20, 2017		Trent 1000-J3	July 30, 2014	October 20, 2017		Trent 1000-K3	July 30, 2014	October 20, 2017		Trent 1000-L3	July 30, 2014	October 20, 2017		Trent 1000-M3	July 30, 2014	October 20, 2017		Trent 1000-N3	July 30, 2014	October 20, 2017		Trent 1000-P3	July 30, 2014	October 20, 2017		Trent 1000-Q3	July 30, 2014	October 20, 2017		Trent 1000-R3	July 30, 2014	October 20, 2017		Trent7000-72	December 3, 2014	December 20, 2018		Trent7000-72C	December 3, 2014	December 20, 2018	
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Trent 1000-CE3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent 1000-D3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent 1000-G3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent 1000-H3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent 1000-J3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent 1000-K3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent 1000-L3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent 1000-M3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent 1000-N3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent 1000-P3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent 1000-Q3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent 1000-R3	July 30, 2014	October 20, 2017																																																																																																																																											
Trent7000-72	December 3, 2014	December 20, 2018																																																																																																																																											
Trent7000-72C	December 3, 2014	December 20, 2018																																																																																																																																											

NOTES

NOTE 1.	<p>ENGINE RATINGS:</p> <p>The engine ratings are based on sea-level static, International Standard Atmosphere (ISA) conditions. No power take-offs are assumed. All engine models are flat rated to ISA + 15°C except the Trent 1000-D, -D2, -D3 and -L2 which are flat rated to ISA +20°C, the Trent 1000-K2 and -K3, which are flat rated to ISA+18°C, the Trent 1000-L3, which is flat rated to ISA +20°C, the Trent 1000-P3, which is flat rated ISA+25.3°C, the Trent 1000-Q3, which is flat rated to ISA+20.6°C, the Trent 1000-R3, which is flat rated to ISA+10°C and the Trent7000-72 and -72C, which are flat rated to ISA+22°C.</p>																																						
NOTE 2.	<p>TEMPERATURE LIMITS:</p> <p>TURBINE GAS TEMPERATURE (TGT) – trimmed/indicated °C (see Note 11) Measured at the 1st stage Nozzle Guide Vane of the LP Turbine.</p> <p><u>Trent 1000-A, -C, -D, -E, -G, and -H with or without Service Bulletin 72 G319 or Modification 72-G319 and without Service Bulletin 73-H646, Trent1000-AE, -CE without Service Bulletin 73-H646</u></p> <table> <tr><td>Maximum Ground Starting and Shutdown</td><td>700</td></tr> <tr><td>Maximum Inflight Relights</td><td>900</td></tr> <tr><td>Maximum Takeoff (5 min., see NOTE 13)</td><td>900</td></tr> <tr><td>Maximum Continuous (unrestricted duration)</td><td>850</td></tr> <tr><td>Maximum Exhaust Gas Overtemperature (see NOTE 13)</td><td>920</td></tr> </table> <p><u>Trent 1000-A, -C, -D, -E, -G, -H with Service Bulletin 72 G319 or Modification 72-G319 and with Service Bulletin 73-H646, Trent 1000-AE, -CE with Service Bulletin 73-H646, Trent 1000-A2, -AE2, -C2, -CE2, -D2, -E2, -G2, -H2, -J2, -K2, -L2, Trent 1000-AE3, -CE3, -D3, -G3, -H3, -J3, -K3, -L3, -M3, -N3, -P3, -Q3, -R3, Trent7000-72, -72C</u></p> <table> <tr><td>Maximum Ground Starting and Shutdown</td><td>700</td></tr> <tr><td>Maximum Inflight Relights</td><td>900</td></tr> <tr><td>Maximum Takeoff (5 min., see NOTE 13.)</td><td>900</td></tr> <tr><td>Maximum Takeoff (2 min. out of a total of 5 minutes, see NOTE 13)</td><td>900</td></tr> <tr><td>Maximum Continuous (unrestricted duration)</td><td>850</td></tr> <tr><td>Maximum Exhaust Gas Overtemperature (see NOTE 13)</td><td>920</td></tr> </table> <p>FUEL °C Measured at the inlet to the engine.</p> <p><u>Trent 1000-A, -C, -D, -E, -G, -H, Trent 1000-AE -CE, Trent 1000-A2, -AE2, -C2, -CE2, -D2, -E2, -G2, -H2, -J2, -K2, -L2</u></p> <table> <tr><td>Minimum Fuel Temperature Before Start</td><td>-45</td></tr> <tr><td>Maximum Fuel Temperature</td><td>65</td></tr> </table> <p><u>Trent 1000-AE3, -CE3, -D3, -G3, -H3, -J3, -K3, -L3, -M3, -N3, -P3, -Q3, -R3</u></p> <table> <tr><td>Minimum Fuel Temperature Before Start</td><td>-54</td></tr> <tr><td>Minimum Fuel Temperature For Engine Acceleration</td><td>-45</td></tr> <tr><td>Maximum Fuel Temperature</td><td>65</td></tr> </table> <p><u>Trent7000-72, Trent7000-72C</u></p> <table> <tr><td>Minimum fuel temperature: (at, or below 14,600ft)</td><td>-44</td></tr> <tr><td>Minimum fuel temperature: (above 14,600 ft)</td><td>-54</td></tr> <tr><td>Maximum fuel temperature:</td><td>55</td></tr> </table>	Maximum Ground Starting and Shutdown	700	Maximum Inflight Relights	900	Maximum Takeoff (5 min., see NOTE 13)	900	Maximum Continuous (unrestricted duration)	850	Maximum Exhaust Gas Overtemperature (see NOTE 13)	920	Maximum Ground Starting and Shutdown	700	Maximum Inflight Relights	900	Maximum Takeoff (5 min., see NOTE 13.)	900	Maximum Takeoff (2 min. out of a total of 5 minutes, see NOTE 13)	900	Maximum Continuous (unrestricted duration)	850	Maximum Exhaust Gas Overtemperature (see NOTE 13)	920	Minimum Fuel Temperature Before Start	-45	Maximum Fuel Temperature	65	Minimum Fuel Temperature Before Start	-54	Minimum Fuel Temperature For Engine Acceleration	-45	Maximum Fuel Temperature	65	Minimum fuel temperature: (at, or below 14,600ft)	-44	Minimum fuel temperature: (above 14,600 ft)	-54	Maximum fuel temperature:	55
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NOTE 2. continued	OIL °C	
	Combined oil scavenge temperature	
	<u>Trent 1000-A, Trent 1000-C, Trent 1000-D, Trent 1000-E, Trent 1000-G, and Trent 1000-H</u>	
	Without Service Bulletin 72-G319 or Modification 72-G319 Incorporated	With Service Bulletin 72-G319 or Modification 72-G319 Incorporated
	Minimum for starting: -40	Minimum for starting: -40
	Minimum for acceleration to power, for fuel inlet temperature -23°C and higher: 40	Minimum for acceleration to power, for fuel inlet temperature -23°C and higher: 40
	Minimum for acceleration to power, for fuel inlet temperature from -45°C to -23°C: Varies linearly from 40 to 77	Minimum for acceleration to power, for fuel inlet temperature from -45°C to -23°C: Varies linearly from 40 to 77
	Maximum for unrestricted use: 196	Maximum for unrestricted use: 193
	Transient limit (15 minutes) : 205	Transient limit (15 minutes) : 201
	<u>Trent 1000-AE, Trent 1000-CE</u>	
	Minimum for starting: -40	
	Minimum for acceleration to power, for fuel inlet temperature -23°C and higher: 40	
	Minimum for acceleration to power, for fuel inlet temperature from -45°C to -23°C: Varies linearly from 40 to 77	
	Maximum for unrestricted use: 193	
	Transient limit (15 minutes) : 201	
	<u>Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2</u>	
	Minimum for starting: -40	
	Minimum for acceleration to power, for fuel inlet temperature -23°C and higher: 40	
	Minimum for acceleration to power, for fuel inlet temperature from -45°C to -23°C: Varies linearly from 40 to 77	
	Maximum for unrestricted use: 193	
	Transient limit (15 minutes) : 201	
	<u>Trent 1000-AE3, Trent 1000-CE3, Trent 1000-D3, Trent 1000-G3, Trent 1000-H3, Trent 1000-J3, Trent 1000-K3, Trent 1000-L3, Trent 1000-M3, Trent 1000-N3, Trent 1000-P3, Trent 1000-Q3, Trent 1000-R3</u>	
	Minimum for starting: -40	
	Minimum for acceleration to power, for fuel inlet temperature -23°C and higher: 40	
	Minimum for acceleration to power, for fuel inlet temperature from -45°C to -23°C: Varies linearly from 40 to 90	
	Maximum for unrestricted use: 196	
	Transient limit (15 minutes) : 201	
	<u>Trent7000-72, Trent7000-72C</u>	
	Minimum for starting: -20	
	Minimum for acceleration to power, for fuel inlet temperature -11°C and higher: 40	
	Minimum for acceleration to power, for fuel inlet temperature between -11°C and -54°C: Varies linearly from 40 to 106	
	Maximum for unrestricted use: 191	
	Transient limit (15 minutes) : 196	

NOTE 3.	<p>PRESSURE LIMITS:</p> <p>FUEL</p> <p><u>All engine models except the Trent7000-72 and Trent7000-72C</u></p> <p>Minimum absolute pressure at engine inlet: 5 psi + Vapor Pressure Transient conditions with engine running (2 seconds): 2 psi + Vapor Pressure</p> <p>For engine operation with the aircraft boost pumps inoperative the engine minimum fuel pressure limit is reduced down to 3.4 psi at altitudes of up to 35000 feet for up to 600 minutes. Refer to the Installation Manual for additional information.</p> <p>Maximum absolute pressure at the pylon interface: Steady state conditions with engine running: 70 psi Transient conditions with engine running (2 seconds) 140 psi Static after engine shutdown 170 psi</p> <p><u>Trent7000-72, Trent7000-72C</u></p> <p>Minimum absolute pressure at engine inlet: 5 psi + Vapor Pressure</p> <p>Refer to the Installation Manual for additional information.</p> <p>Maximum absolute pressure at the pylon interface: Steady state conditions with engine running: 40 psi Transient conditions with engine running (2 seconds) 100 psi Static after engine shutdown 100 psi</p> <p>OIL</p> <p><u>Trent 1000-A, Trent 1000-C, Trent 1000-D, Trent 1000-E, Trent 1000-G, and Trent 1000-H</u></p> <table border="0"> <tr> <td>Without Service Bulletin 72-G319 or Modification 72-G319 Incorporated</td><td>With Service Bulletin 72-G319 or Modification 72-G319 Incorporated</td></tr> <tr> <td>Minimum Ground idle to 74% IP rpm: 30 psi</td><td>Minimum Ground idle to 74% IP rpm: 30 psi</td></tr> <tr> <td>Minimum between 74% and 100% IP rpm: Varies linearly from 30 to 75 psi</td><td>Minimum between 74% and 100% IP rpm: Varies linearly from 30 to 90 psi</td></tr> <tr> <td>Minimum Above 100% IP rpm: 75 psi</td><td>Minimum Above 100% IP rpm: 90 psi</td></tr> </table> <p><u>Trent 1000-AE, Trent 1000-CE</u></p> <table border="0"> <tr> <td>Minimum Ground idle to 74% IP rpm:</td><td>30 psi</td></tr> <tr> <td>Minimum between 74% and 100% IP rpm:</td><td>Varies linearly from 30 to 90 psi</td></tr> <tr> <td>Minimum Above 100% IP rpm:</td><td>90 psi</td></tr> </table> <p><u>Trent 1000-A2, Trent –AE2, Trent 1000-C2, Trent-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, Trent 1000-L2 and Trent7000-72 and Trent7000-72C.</u></p> <table border="0"> <tr> <td>Minimum Ground idle to 74% IP rpm:</td><td>30 psi</td></tr> <tr> <td>Minimum between 74% and 100% IP rpm:</td><td>Varies linearly from 30 to 90 psi</td></tr> <tr> <td>Minimum Above 100% IP rpm:</td><td>90 psi</td></tr> </table> <p><u>Trent 1000-AE3, Trent 1000-CE3, Trent 1000-D3, Trent 1000-G3, Trent 1000-H3, Trent 1000-J3, Trent 1000-K3, Trent 1000-L3, Trent 1000-M3, Trent 1000-N3, Trent 1000-P3, Trent 1000-Q3, Trent 1000-R3</u></p> <table border="0"> <tr> <td>Minimum Ground idle to 74% IP rpm:</td><td>Trimmed/ indicated 30 psi</td></tr> <tr> <td>Minimum between 74% and 100% IP rpm:</td><td>Trimmed/ indicated varies linearly from 30 to 90 psi</td></tr> <tr> <td>Minimum Above 100% IP rpm:</td><td>Trimmed/ indicated 90 psi</td></tr> </table>	Without Service Bulletin 72-G319 or Modification 72-G319 Incorporated	With Service Bulletin 72-G319 or Modification 72-G319 Incorporated	Minimum Ground idle to 74% IP rpm: 30 psi	Minimum Ground idle to 74% IP rpm: 30 psi	Minimum between 74% and 100% IP rpm: Varies linearly from 30 to 75 psi	Minimum between 74% and 100% IP rpm: Varies linearly from 30 to 90 psi	Minimum Above 100% IP rpm: 75 psi	Minimum Above 100% IP rpm: 90 psi	Minimum Ground idle to 74% IP rpm:	30 psi	Minimum between 74% and 100% IP rpm:	Varies linearly from 30 to 90 psi	Minimum Above 100% IP rpm:	90 psi	Minimum Ground idle to 74% IP rpm:	30 psi	Minimum between 74% and 100% IP rpm:	Varies linearly from 30 to 90 psi	Minimum Above 100% IP rpm:	90 psi	Minimum Ground idle to 74% IP rpm:	Trimmed/ indicated 30 psi	Minimum between 74% and 100% IP rpm:	Trimmed/ indicated varies linearly from 30 to 90 psi	Minimum Above 100% IP rpm:	Trimmed/ indicated 90 psi
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NOTE 4.**ACCESSORY DRIVE MOUNTING PROVISIONS:****Trent 1000**

The Trent 1000 engine's accessory gearbox may be fitted with two, Variable Frequency Starter Generators (VFSG) and one Hydraulic Pump to provide electrical and hydraulic power to the aircraft. These units are part of the airframe, and certified under Aircraft Airworthiness Standards. The Engine Installation Manual details installation and operational requirements, including torque and power limitations.

Trent7000

The Trent7000 engines's accessory gearbox may be fitted with one Intergrated Drive Generator (IDG) and two hydraulic pump's to provide electrical and hydraulic power to the aircraft. These units are part of the Airframe, and certified under Aircraft Airworthiness Standards. The Engine Installation Manual details installation and operational requirements, including torque and power limitations.

Trent 1000-A, -C, -D, -E, -G and -H with or without SB 72-G319 or modification 72-G319 and -AE,- CE,-A2, -AE2, -C2, -CE2 -D2, -E2, -G2, -H2, -J2, -K2, -L2:

Drive and mounting provisions	Accessory	
	VFSG	Hydraulic Pump
Drive identification	Rear face of the EGB, left and right side of lower bevel box	Front face of the right side of the EGB
Speed ratio	1.658 IP speed	0.6538 IP speed
Direction of rotation (looking at drive pad)	Counter Clockwise	Counter Clockwise
Maximum power	500 kVA 750 kVA (5 second transient)	51 hp
Maximum torque*	1496 lbf-ft	3715 lbf-in
Overhung moment	1718.3 lbf-in (wet including QAD)	140 lbf-in (wet)

*Maximum shear neck value

Trent 1000-AE3, -CE3, -D3, -G3, -H3, -J3, -K3, -L3, -M3, -N3, -P3, -Q3, and -R3:

Drive and mounting provisions	Accessory	
	VFSG	Hydraulic Pump
Drive identification	Rear face of the EGB, left and right side of lower bevel box	Front face of the right side of the EGB
Speed ratio	1.6666 IP speed	0.6545 IP speed
Direction of rotation (looking at drive pad)	Counter Clockwise	Counter Clockwise
Maximum power	500 kVA 750 kVA (5 second transient)	51 hp
Maximum torque*	1496 lbf-ft	3715 lbf-in
Overhung moment	1718.3 lbf-in (wet including QAD)	140 lbf-in (wet)

*Maximum shear neck value

NOTE 4.
continued

ACCESSORY DRIVE MOUNTING PROVISIONS: (cont.)

Trent7000-72, -72C

Drive and mounting provisions	Accessory	
	Integrated Drive Generator (IDG)	Hydraulic Pump
Drive identification	Rear face, Port side of the External Gearbox	(2-off) Front face, Starboard side of the External Gearbox
Speed ratio	0.987 IP speed	0.488 IP Speed
Direction of rotation (looking at drive pad)	Counter Clockwise	Counter Clockwise
Maximum power	115kVA (continuous max) 180kVA (5 sec transient overload)	66 kW (88HP)
Maximum torque*	882.8 lbf.ft	368.8 lbf-ft
Overhung moment	1165 lbf-in	160 lbf-in

*Maximum shear neck value

<p>NOTE 5.</p>	<p>MODEL DESCRIPTION:</p> <p>Trent 1000-A Basic model.</p> <p>Trent 1000-C Same as basic model except for increased thrust rating.</p> <p>Trent 1000-D Same as Trent 1000-C except flat rated to ISA +20°C with a takeoff thrust increase (varying from 0.2 to 1.4 percent) scaled in as a function of the takeoff roll Mach number.</p> <p>Trent 1000-E Same as basic model except for decreased thrust ratings.</p> <p>Trent 1000-G Same as basic model except for increased Take-off thrust ratings.</p> <p>Trent 1000-H Same as Trent 1000-E except for increased Take-off thrust ratings.</p> <p>Trent 1000-A2 Same as Trent 1000-A/01 with increased flight load capability, increased turbine entry temperature, a two-minute transient overtemperature limit, and a takeoff thrust increase (varying from 0.2 to 1.4 percent) scaled in as a function of the takeoff roll Mach number.</p> <p>Trent 1000-C2 Same as Trent 1000-A2 except for increased thrust ratings.</p> <p>Trent 1000-D2 Same as Trent 1000-C2 except flat rated to ISA +20°C.</p> <p>Trent 1000-E2 Same as Trent 1000-A2 except for decreased thrust ratings.</p> <p>Trent 1000-G2 Same as Trent 1000-A2 except for increased Take-off thrust ratings.</p> <p>Trent 1000-H2 Same as Trent 1000-E2 except for increased Take of Thrust ratings</p> <p>Trent 1000-J2 Same as Trent 1000-A2 except for increased thrust ratings.</p> <p>Trent 1000-K2 Same as Trent 1000-J2 except flat rated to ISA +18°C.</p> <p>Trent 1000-L2 Same as Trent 1000-C2 except flat rated to ISA +20°C.</p> <p>Trent 1000-AE3 Same as Trent 1000-A/01 with increased flight load capability, decreased turbine entry temperature, a two-minute transient overtemperature limit, and a takeoff thrust increase (varying from 0.2 to 1.4 percent) scaled in as a function of the takeoff roll Mach number..</p> <p>Trent 1000-CE3 Same as Trent 1000-AE3 except for increased thrust ratings</p> <p>Trent 1000-D3 Same as Trent 1000-CE3 except flat rated to ISA +20 °C</p> <p>Trent 1000-G3 Same as Trent 1000-AE3 except for increased Take-off thrust ratings.</p> <p>Trent 1000-H3 Same as Trent 1000-G3 except for decreased thrust ratings.</p> <p>Trent 1000-J3 Same as Trent 1000-AE3 except for increased thrust ratings.</p> <p>Trent 1000-K3 Same as Trent 1000-J3 except flat rated to ISA +18°C.</p> <p>Trent 1000-L3 Same as Trent 1000-D3 except flat rated to ISA +20°C.</p> <p>Trent 1000-M3 Same as Trent 1000-J3 except for increased thrust ratings.</p> <p>Trent 1000-N3 Same as Trent 1000-R3 except for decreased Take-off thrust ratings flat rated to ISA+15°C.</p> <p>Trent 1000-P3 Same as Trent 1000-CE3 except flat rated to ISA+25.3°C.</p> <p>Trent 1000-Q3 Same as Trent 1000-J3 except flat rated to ISA +20.6°C.</p> <p>Trent 1000-R3 Same as Trent 1000-AE3 except for increased thrust ratings flat rated to ISA +10°C.</p> <p>Trent7000-72 Basic model for use on the Airbus A330 airframe. Similar thrusts as the Trent 1000-G, and flat rated to ISA+22°C</p> <p>Trent7000-72C Same as Trent7000-72 except for increased Take-off thrust ratings at high altitude.</p> <p>Trent 1000-AE Same as Trent 1000-A/01 with a takeoff thrust increase (varying from 0.2 to 1.4 percent) scaled in as a function of the takeoff roll Mach number.</p> <p>Trent 1000-CE Same as Trent 1000-AE except for increased thrust rating.</p> <p>Trent 1000-AE2 Same as Trent 1000-A2.</p> <p>Trent 1000-CE2 Same as Trent 1000-C2.</p> <p><u>Trent 1000-A, -C, -D, -E, -G, and -H</u></p> <p>Engines incorporating Service Bulletin 72-G319 or Modification 72-G319 are identified on the engine name plate by “/01” in the Build Standard block.</p> <p>Engines incorporating deactivation of the fuel return to tank system are identified by the modification Service Bulletin 72-G893. In addition, these engines are identified on the engine name plate by “/01A” in the Build Standard block.</p>
<p>NOTE 6.</p>	<p>ACCESSORIES, COMPONENTS, OR SYSTEM ASSEMBLIES PROVIDED AS PART OF ENGINE TYPE DESIGN:</p> <p>Not Applicable</p>
<p>NOTE 7.</p>	<p>ACCESSORIES, COMPONENTS, OR SYSTEM ASSEMBLIES NOT PROVIDED AS PART OF ENGINE TYPE DESIGN:</p> <p>Not Applicable</p>

<p>NOTE 8.</p>	<p>SPECIAL ANTI-ICING OR DE-ICING REQUIREMENTS:</p> <p>All engine models except the Trent7000-72 and Trent7000-72C (See NOTE 21) do not supply compressor air for airframe ventilation (Cabin Bleed).</p> <p>All engine models supply compressor air for preventing ice build-up on the engine nacelle (Cowl Thermal Anti-Ice (CTAI)).</p> <p>Nacelle thermal anti-icing flow demand (HP3) is modulated via a regulating valve.</p> <p><u>Trent 1000-A, Trent 1000-AE, Trent 1000-C, Trent 1000-CE, Trent 1000-D, Trent 1000-E, Trent 1000-G, Trent 1000-H, Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, Trent 1000-L2.</u></p> <table> <tr> <th>Engine Power Setting TET (K)</th><th>Maximum Cowl Thermal Anti Ice Flow % Core Mass Flow (W26)</th></tr> <tr> <td>Idle to 1430</td><td>2.67</td></tr> <tr> <td>1430 to 1785</td><td>2.67 to 1.25 varying linearly</td></tr> <tr> <td>1785 to 1820</td><td>1.25 to 0.54 varying linearly</td></tr> <tr> <td>1820 and above</td><td>0.54</td></tr> </table> <p><u>Trent 1000-AE3, Trent 1000-CE3, Trent 1000-D3, Trent 1000-G3, Trent 1000-H3, Trent 1000-J3, Trent 1000-K3, Trent 1000-L3, Trent 1000-M3, Trent 1000-N3, Trent 1000-P3, Trent 1000-Q3, Trent 1000-R3.</u></p> <table> <tr> <th>Engine Power Setting TET (K)</th><th>Maximum Cowl Thermal Anti Ice Flow % Core Mass Flow (W26)</th></tr> <tr> <td>Idle to 1015</td><td>2.9</td></tr> <tr> <td>1015 to 1765</td><td>2.9 to 2.1 varying linearly</td></tr> <tr> <td>1765 to 1810</td><td>2.1 to 0.5 varying linearly</td></tr> <tr> <td>Above 1810</td><td>0.5</td></tr> </table> <p><u>Trent7000-72, Trent7000-72C</u></p> <table> <tr> <th>Engine Power Setting TET (K)</th><th>Maximum Cowl Thermal Anti Ice Flow % Core Mass Flow (W26)</th></tr> <tr> <td>Idle to 1175</td><td>0.86</td></tr> <tr> <td>1175 to 1725</td><td>0.86 to 0.82 varying linearly</td></tr> <tr> <td>1725 to 1750</td><td>0.82 to 0.54 varying linearly</td></tr> <tr> <td>1750 to 1830</td><td>0.54 to 0.39 varying linearly</td></tr> <tr> <td>Above 1830</td><td>0.39</td></tr> </table> <p>W26 represents the air mass-flow through the core of the engine.</p>	Engine Power Setting TET (K)	Maximum Cowl Thermal Anti Ice Flow % Core Mass Flow (W26)	Idle to 1430	2.67	1430 to 1785	2.67 to 1.25 varying linearly	1785 to 1820	1.25 to 0.54 varying linearly	1820 and above	0.54	Engine Power Setting TET (K)	Maximum Cowl Thermal Anti Ice Flow % Core Mass Flow (W26)	Idle to 1015	2.9	1015 to 1765	2.9 to 2.1 varying linearly	1765 to 1810	2.1 to 0.5 varying linearly	Above 1810	0.5	Engine Power Setting TET (K)	Maximum Cowl Thermal Anti Ice Flow % Core Mass Flow (W26)	Idle to 1175	0.86	1175 to 1725	0.86 to 0.82 varying linearly	1725 to 1750	0.82 to 0.54 varying linearly	1750 to 1830	0.54 to 0.39 varying linearly	Above 1830	0.39
Engine Power Setting TET (K)	Maximum Cowl Thermal Anti Ice Flow % Core Mass Flow (W26)																																
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Engine Power Setting TET (K)	Maximum Cowl Thermal Anti Ice Flow % Core Mass Flow (W26)																																
Idle to 1015	2.9																																
1015 to 1765	2.9 to 2.1 varying linearly																																
1765 to 1810	2.1 to 0.5 varying linearly																																
Above 1810	0.5																																
Engine Power Setting TET (K)	Maximum Cowl Thermal Anti Ice Flow % Core Mass Flow (W26)																																
Idle to 1175	0.86																																
1175 to 1725	0.86 to 0.82 varying linearly																																
1725 to 1750	0.82 to 0.54 varying linearly																																
1750 to 1830	0.54 to 0.39 varying linearly																																
Above 1830	0.39																																
<p>NOTE 9.</p>	<p>ENGINE MOUNT SYSTEM PROVISIONS:</p> <p>The engine mount points are on the Fancase, Intercase and Tail Bearing Housing and are defined in the Engine Installation Manual</p>																																
<p>NOTE 10.</p>	<p>POWER BOOST, INJECTION OR AUGMENTATION SYSTEMS:</p> <p>Not Applicable</p>																																
<p>NOTE 11.</p>	<p>SPECIAL INSTALLATION REQUIREMENTS:</p> <p>ETOPS: These engine models have demonstrated eligibility for ETOPS under 14 CFR §33.201 for a maximum diversion time of 330 minutes. The Trent 1000-A, Trent 1000-AE, Trent 1000-C, Trent 1000-CE, Trent 1000-D, Trent 1000-E, Trent 1000-G, Trent 1000-H, Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, Trent 1000-L2, Trent 1000-M3, Trent 1000-N3, Trent 1000-P3, Trent 1000-Q3, Trent 1000-R3 engine models have complied with the requirements of §§ 33.4 (A33.3(c)), 33.71(c)(4) and 33.201, and are therefore eligible for installation on Extended Operations (ETOPS) and Early ETOPS approved airplanes. The demonstrated diversion time is 330 minutes at MCT plus 15 minutes at hold power. Note, that ETOPS eligibility does not constitute airplane or operational level approvals necessary to conduct ETOPS flights.</p>																																

**NOTE 11.
continued****ETOPS cont.:**

The Trent 1000-AE3, Trent 1000-CE3, Trent 1000-D3, Trent 1000-G3, Trent 1000-H3, Trent 1000-J3, Trent 1000-K3 and Trent 1000-L3 engine models have demonstrated eligibility for ETOPS under 14 CFR §33.201 for a maximum diversion time of 330 minutes except engines fitted with IPC Rotor 1 blades P/N KH28129 that have accumulated more than 500 cycles since new or since refurbishment as applicable, or fitted with IPC Rotor 2 blades P/N KH28131 that have accumulated more than 900 cycles since new or since refurbishment as applicable, for which ETOPS capability in accordance with §33.201 is approved for a maximum diversion time of 180 minutes plus 15 minutes at hold power. These engine models have complied with the requirements of §§ 33.4 (A33.3(c)), 33.71(c)(4) and 33.201, and are therefore eligible for installation on Extended Operations (ETOPS) and Early ETOPS approved airplanes. Note, that ETOPS eligibility does not constitute airplane or operational level approvals necessary to conduct ETOPS flights.

The Trent7000-72 and Trent7000-72C engine models have complied with the requirements of §§ 33.4 (A33.3(c)), 33.71(c)(4) and 33.201, and are therefore eligible for installation on Extended Operations (ETOPS) and Early ETOPS approved airplanes. The demonstrated diversion time is 330 minutes at MCT plus 15 minutes at hold power. ETOPS is restricted to engines incorporating MB72-K203 and NMSB Trent 1000 72-AK269. Note, that ETOPS eligibility does not constitute airplane or operational level approvals necessary to conduct ETOPS flights.

The Trent7000-72 and Trent7000-72C engine models have demonstrated eligibility for ETOPS under 14 CFR §33.201 for a maximum diversion time of 330 minutes except engines fitted with IPC Rotor 1 blades P/N KH28129 that have accumulated more than 500 cycles since new or since refurbishment as applicable, for which ETOPS capability in accordance with §33.201 is approved for a maximum diversion time of 180 minutes plus 15 minutes at hold power. These engine models have complied with the requirements of §§ 33.4 (A33.3(c)), 33.71(c)(4) and 33.201, and are therefore eligible for installation on Extended Operations (ETOPS) and Early ETOPS approved airplanes. Note, that ETOPS eligibility does not constitute airplane or operational level approvals necessary to conduct ETOPS flights.

IPC Rotor 1 blades P/N KH28129 and IPC Rotor 2 blades P/N KH28131 are to be replaced no later than December 31, 2021 by modified blade standards that are expected to restore a maximum approved diversion time of 330 minutes plus 15 minutes at hold power.

THRUST REVERSER: These engines are approved for use in thrust reverse operation with thrust reverser units that conform to the following drawings:

Trent 1000

Drawing Name	Drawing Number
Thrust Reverser Left Wing Outboard	725Z3030
Thrust Reverser Left Wing Inboard	725Z3040
Thrust Reverser Right Wing Inboard	725Z3050
Thrust Reverser Right Wing Outboard	725Z3060

Trent7000

Drawing Name	Drawing Number
Thrust Reverser Left Wing Outboard	BKL0011-07-0
Thrust Reverser Left Wing Inboard	BKL0051-07-0
Thrust Reverser Right Wing Inboard	BKL0011-07-0
Thrust Reverser Right Wing Outboard	BKL0051-07-0

**NOTE 11
continued****EMISSIONS STANDARDS:**

The following emissions standards promulgated in 14 CFR Part 34, Amendment 5A, effective October 23, 2013 and 40 CFR Part 87, effective July 18, 2012 have been complied with for the Trent 1000-A, Trent 1000-C, Trent 1000-D, Trent 1000-E, Trent 1000-G, Trent 1000-H, Trent 1000-A2, Trent 1000-C2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2 and Trent 1000-L2.

The Trent 1000-AE, Trent 1000-CE, Trent 1000-AE2, Trent 1000-CE2, Trent 1000-AE3, Trent 1000-CE3, Trent 1000-D3, Trent 1000-G3, Trent 1000-H3, Trent 1000-H3, Trent 1000-J3, Trent 1000-K3, Trent 1000-L3, Trent 1000-M3, Trent 1000-N3, Trent 1000-P3, Trent 1000-Q3, Trent 1000-R3, Trent7000-72, Trent7000-72C engine models have also complied with the following emissions standards promulgated in 14 CFR Part 34, Amendment 5A, effective October 23, 2013 and 40 CFR Part 87, effective July 18, 2012:

- Fuel Venting Emission Standards: 14 CFR §§ 34.10(a) and 34.11, and 40 CFR §§ 87.10(a) and 87.11
- Smoke Number (SN) Emission Standards: 14 CFR §34.21(e)(2) and 40 CFR § 87.23(c)(1)
- Carbon Monoxide (CO) Emission Standards: 14 CFR § 34.21(d)(1)(ii) and 40 CFR § 87.23(c)(1)
- Hydrocarbons (HC) Emission Standards: 14 CFR § 34.21(d)(1)(i) and 40 CFR § 87.23(c)(1)
- Oxides of Nitrogen (NOx) Emission Standards: 14 CFR § 34.23(b)(1) and 40 CFR § 87.23(c)(3)

In addition to the FAA's finding of compliance based on the certification requirements defined in this TCDS, Rolls-Royce has declared that the ICAO emissions standards identified in Annex 16, Volume II, Third Edition, Part III, Chapter 2, Section 2.2.2 for SN, Section 2.3.2 for CO and HC, Section 2.3.2.e.3 for NOx (also known as CAEP/8), and Part II Chapter 2 for fuel venting have been demonstrated.

TIME LIMITED DISPATCH:Trent 1000 and Trent7000

The engine models are approved for Time Limited Dispatch. The maximum rectification period for each dispatchable state is specified in the Engine Installation Manual.

ENGINE GAS TEMPERATURE:

The measured Engine Gas Temperature (EGT) is modified by trimming for the purposes of the cockpit display. Trimming of EGT is done to provide consistent cockpit displayed levels of maximum allowable EGT, across engine models irrespective of the maximum allowable levels of un-trimmed EGT. EGT trims are programmed into the Data Entry Plug (DEP) which is fitted to the Electronic Engine Controller (EEC). The EEC processes the EGT and calculates the indicated EGT. Indicated redline values and corresponding EGT pull-down trims are provided in the following tables.

	Trent 1000-A, -C, -D, -E, -G, and -H without Service Bulletin 72-G319 or Modification 72-G319	
Redline Value	EGT Indicated [°C]	EGT Trim [°C]
Maximum Continuous	850	-105
Take-off	900	-83
20 second Over Temperature	920	-64.5

	Trent 1000-A, -C, -D, -E, -G, and -H with Service Bulletin 72-G319 or Modification 72-G319				
Redline Value	EGT Indicated [°C]	EGT Trim [°C]			
			With SB 73-H389	With SB 72-G893 and SB 73-H646	With SB 73-K153
Maximum Continuous	850	-82.5	-85	-85	-83
Take-off	900	-59.5	-65.5	-65.5	-63.5
Take-off (2 minute transient)		Not Applicable	Not Applicable	-72.5	-70.5
20 sec Over Temperature	920	-54.5	-66	-66	-63.5

NOTE 11
continued

ENGINE GAS TEMPERATURE: (cont.)

	Trent 1000-A2,-AE2, -C2, -CE2, -D2, -E2, -G2, -H2, -J2, -K2, and -L2			Trent 1000-AE3, -CE3, -D3, -G3, -H3, -J3, -K3, -L3, -M3, -N3, -P3, -Q3, -R3 Trent7000-72, -72C	
Redline Value	EGT Indicated [°C]	EGT Trim [°C]		EGT Indicated [°C]	EGT Trim [°C]
			With SB 73-K177		
Max Continuous	850	-101.5	-97.5	850	-84
Take-off	900	-74.5	-69.5	900	-53.5
Take-off (2 minute transient)		-81	-77.5		-55
20 sec Over Temperature	920	-72	-68	920	-52.5

	Trent 1000-AE and -CE		
Redline Value	EGT Indicated [°C]	EGT Trim [°C]	
			With SB 73-K153
Maximum Continuous	850	-82.5	-83
Take-off	900	-59.5	-63.5
Take-off (2 minute transient)		Not Applicable	-70.5
20 sec Over Temperature	920	-54.5	-63.5

NOTE 12.

MANUFACTURER’S SERVICE BULLETINS OR OTHER INSTRUCTIONS COVERING MATTERS OF INTEREST:

Service bulletins, structural repair manuals, vendor manuals, and engine maintenance manuals, which contain a statement that the document is approved by the European Aviation Safety Agency, are accepted by the FAA and are considered FAA approved. These approvals pertain to the design data only.

NOTE 13.

SPECIAL OPERATING PROCEDURES:

The take-off rating and its associated operating limitations may be used for up to 10 minutes in the event of engine out contingency, but their use is otherwise limited to not more than 5 minutes.

Some engine models are approved for 2-minute transient overtemperature within 5-minute time limit associated with the take-off rating when engine is accelerated to take-off from a cold state. See note 11.

The engine is approved for a maximum exhaust gas overtemperature of 920°C for inadvertent use due to abnormal operation for periods up to 20 seconds without requiring rejection of the engine from service or maintenance action other than to correct the cause. The cause of the overtemperature must be investigated and corrected.

NOTE 14.

SPECIAL REPAIR OR OVERHAUL LIMITATIONS

Not Applicable

NOTE 15.

APPLICABLE INSTALLATION, MAINTENANCE AND OVERHAUL MANUALS.

Trent 1000 and Trent7000 manuals submitted under EASA requirements and accepted as equivalent to 14 CFR § 33.4 and 14 CFR § 33.5 requirements are:

Trent 1000-A, Trent 1000-AE, Trent 1000-C, Trent 1000-CE, Trent 1000-D, Trent 1000-E, Trent 1000-G, and Trent 1000-H

	OPERATING INSTRUCTIONS	INSTALLATION MANUAL	ENGINE MANUAL	TIME LIMITS MANUAL
For engines without Service Bulletin 72-G319 or Modification 72-G319	OI-Trent 1000-B787	DNS 130613	E-Trent-10RR	Incorporated in T-Trent-10RR
For engines with Service Bulletin 72-G319 or Modification 72-G319	OI-Trent 1000-B787	DNS 130613	E-Trent-10RR	Incorporated in T-Trent-10RRB

Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2

OPERATING INSTRUCTIONS	INSTALLATION MANUAL	ENGINE MANUAL	TIME LIMITS MANUAL
OI-Trent 1000-B787C1	DNS 193530	E-Trent-10RC	T-Trent-10RRC

Trent 1000-AE3, Trent 1000-CE3, Trent 1000-D3, Trent 1000-G3, Trent 1000-H3, Trent 1000-J3, Trent 1000-K3, Trent 1000-L3, Trent 1000-M3, Trent 1000-N3, Trent 1000-P3, Trent 1000-Q3, Trent 1000-R3

OPERATING INSTRUCTIONS	INSTALLATION MANUAL	ENGINE MANUAL	TIME LIMITS MANUAL
OI-Trent 1000-TEN-B787	EDNS01000566257	E-Trent-10RRT	T-Trent-10RRT

Cleaning, Inspection, and Repair Manual (CIR)	Check and Rectify Manual (CRM)	Standard Practices Manual (SPM)	Overhaul Processes Manual (OPM)
CIR-TRENT-10RRT	CR-TRENT-10RRT	RR-CAEL-SPM	TSD594-J

Trent7000-72, Trent7000-72C

OPERATING INSTRUCTIONS	INSTALLATION MANUAL	ENGINE MANUAL	TIME LIMITS MANUAL
EDNS01000696186 (OI-TRENT-A330)	EDNS01000696188	E-T7000-1RR	T-7000-1RR

Cleaning, Inspection, and Repair Manual (CIR)	Check and Rectify Manual (CRM)	Standard Practices Manual (SPM)	Overhaul Processes Manual (OPM)
CIR-T7000-1RR	CR-T7000-1RR	RR-CAEL-SPM	TSD594-J

Maintenance Manual
Airbus A330 Customer Aircraft Maintenance Manual (AMM)

The Engine Maintenance Section submitted in compliance to 14 CFR § 33.4 and Appendix A 33.3(a) resides in Chapter 70 of the respective Aircraft Maintenance Manual for all of the above models.

NOTE 16.	<p>IMPORT REQUIREMENTS:</p> <p>To be considered eligible for installation on U.S. registered aircraft, each new engine to be exported to the United States with UK CAA or EASA airworthiness approval shall have a Joint Aviation Authorities (JAA) or EASA Form 1, Authorized Release Certificate. The JAA or EASA Form 1 should state that the engine conforms to the type design approved under the U.S. Type Certificate E00076EN, is in a condition for safe operation and has undergone a final operational check.</p> <p>Reference 14 CFR Section 21.500, which provides for the airworthiness acceptance of aircraft engines manufactured outside of the U.S. and for which a U.S. type certificate has been issued. Additional guidance is contained in FAA Advisory Circular 21-23, "Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products Imported into the United States."</p>
NOTE 17.	<p><u>LIFE LIMITED PART INFORMATION:</u></p> <p>Life-limited parts are identified in Time Limits Manuals identified in Note 15.</p> <p>The Trent 1000 and Trent7000 cyclic life limits are based on a commercial mission cycle, which consists of a start, takeoff, climb, cruise, descent, and landing. Use (or non-use) of a fan reverser for braking during landing does not affect cycle counts. Each of the following constitutes one cycle:</p> <ul style="list-style-type: none">(1) a flight consisting of a takeoff and landing,(2) a touch-and-go landing or simulated touch-and-go landing (no weight on wheels) for pilot training.
NOTE 18.	<p>MILITARY MODEL INFORMATION:</p> <p>Not applicable.</p>

NOTE 19.	<p>MAXIMUM PERMISSIBLE ENGINE ROTOR SPEEDS (%) 100% HP = 13,391 rpm; 100% IP = 8,937 rpm; 100% LP = 2,683 rpm</p> <p>When maintenance running is performed above idle thrust with the aircraft static, the control system automatically applies a temperature dependent LP speed limit (Keep Out Zone). Refer to the Aircraft Maintenance Manual for details.</p> <p>The Maximum Continuous speeds are not displayed as limitations on the aircraft flight deck.</p> <p><u>Trent 1000-A, Trent 1000-C, Trent 1000-D, Trent 1000-E, Trent 1000-G, and Trent 1000-H</u></p> <table><tr><th>Without Service Bulletin 72-G319 or Modification 72-G319 Incorporated</th><th>With Service Bulletin 72-G319 or Modification 72-G319 Incorporated</th></tr><tr><td>Takeoff (5 minutes, see NOTE 13)</td><td>Takeoff (5 minutes, see NOTE 13)</td></tr><tr><td>HP 98.6%</td><td>HP 100.2%</td></tr><tr><td>IP 100.8%</td><td>IP 103.5%</td></tr><tr><td>LP 101.4%</td><td>LP 101.5%</td></tr><tr><td>Maximum Continuous</td><td>Maximum Continuous</td></tr><tr><td>HP 97.8%</td><td>HP 99.2%</td></tr><tr><td>IP 99.5%</td><td>IP 100.8%</td></tr><tr><td>LP 101.4%</td><td>LP 101.5%</td></tr></table> <p>For engines without SB 72-G319 or Modification 72-G319, LP speed must not exceed 96.5% during any aircraft operation with an apparent tailwind, i.e., tailwind greater than aircraft forward speed. This limitation does not apply to an engine with SB 72-G319 or Modification 72-G319.</p> <p><u>Trent 1000-AE and Trent 1000-CE</u></p> <table><tr><td>Takeoff (5 minutes, see NOTE 13)</td></tr><tr><td>HP 100.2%</td></tr><tr><td>IP 103.5%</td></tr><tr><td>LP 101.5%</td></tr><tr><td>Maximum Continuous</td></tr><tr><td>HP 99.2%</td></tr><tr><td>IP 100.8%</td></tr><tr><td>LP 101.5%</td></tr></table> <p><u>Trent 1000-A2, Trent 1000-AE2, Trent 1000-C2, Trent 1000-CE2, Trent 1000-D2, Trent 1000-E2, Trent 1000-G2, Trent 1000-H2, Trent 1000-J2, Trent 1000-K2, and Trent 1000-L2</u></p> <table><tr><td>Takeoff (5 minutes, see NOTE 13)</td></tr><tr><td>HP 101.0%</td></tr><tr><td>IP 103.5%</td></tr><tr><td>LP 101.5%</td></tr><tr><td>Maximum Continuous</td></tr><tr><td>HP 99.5%</td></tr><tr><td>IP 100.8%</td></tr><tr><td>LP 101.5%</td></tr></table> <p><u>Trent 1000-AE3, Trent 1000-CE3, Trent 1000-D3, Trent 1000-G3, Trent 1000-H3, Trent 1000-J3, Trent 1000-K3, Trent 1000-L3, Trent 1000-M3, Trent 1000-N3, Trent 1000-P3, Trent 1000-Q3, Trent 1000-R3, Trent 7000-72, and Trent 7000-72C</u></p> <table><tr><td>Takeoff (5 minutes, see NOTE 13)</td></tr><tr><td>HP 101.5%</td></tr><tr><td>IP 103.5%</td></tr><tr><td>LP 101.5%</td></tr><tr><td>Maximum Continuous</td></tr><tr><td>HP 99.5%</td></tr><tr><td>IP 100.8%</td></tr><tr><td>LP 101.5%</td></tr></table>	Without Service Bulletin 72-G319 or Modification 72-G319 Incorporated	With Service Bulletin 72-G319 or Modification 72-G319 Incorporated	Takeoff (5 minutes, see NOTE 13)	Takeoff (5 minutes, see NOTE 13)	HP 98.6%	HP 100.2%	IP 100.8%	IP 103.5%	LP 101.4%	LP 101.5%	Maximum Continuous	Maximum Continuous	HP 97.8%	HP 99.2%	IP 99.5%	IP 100.8%	LP 101.4%	LP 101.5%	Takeoff (5 minutes, see NOTE 13)	HP 100.2%	IP 103.5%	LP 101.5%	Maximum Continuous	HP 99.2%	IP 100.8%	LP 101.5%	Takeoff (5 minutes, see NOTE 13)	HP 101.0%	IP 103.5%	LP 101.5%	Maximum Continuous	HP 99.5%	IP 100.8%	LP 101.5%	Takeoff (5 minutes, see NOTE 13)	HP 101.5%	IP 103.5%	LP 101.5%	Maximum Continuous	HP 99.5%	IP 100.8%	LP 101.5%
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NOTE 20.	<p>OUTPUT/PROPELLER SHAFT TORQUE LIMITS</p> <p>Not Applicable</p>																																										

<p>NOTE 21.</p>	<p>BLEED AIR EXTRACTION PROVISIONS: See Note 8 for information regarding Bleed Air Extraction related to Anti-Icing facilities.</p> <p>All engine models except the Trent7000-72 and Trent7000-72C do not supply compressor air for airframe ventilation (Cabin Bleed).</p> <p>The Trent Trent7000-72 and Trent7000-72C engines supply compressor air for airframe ventilation (Cabin Bleed). Airframe ventilation (Cabin Bleed) is modulated via a regulating valve from either HPC stage 6 or IPC stage 8 source as shown).</p> <p><u>Trent7000-72 and Trent7000-72C</u></p> <table> <tr> <td>Engine Power Setting</td><td>Maximum Normal Cabin Air Bleed</td></tr> <tr> <td>Turbine Entry Temperature (TET (K))</td><td>% Core Mass Flow (W26)</td></tr> <tr> <td>1000</td><td>15.8 (HPC 6)</td></tr> <tr> <td>1260</td><td>15.8 (HPC 6)</td></tr> <tr> <td>1600</td><td>5.6 (HPC 6 or IPC 8)</td></tr> <tr> <td>1708</td><td>4.3 (IPC 8)</td></tr> <tr> <td>1740</td><td>3.2 (IPC 8)</td></tr> <tr> <td>1835 and above</td><td>2.35 (IPC 8)</td></tr> </table> <table> <tr> <td>Engine Power Setting</td><td>Maximum Abnormal Cabin Air Bleed</td></tr> <tr> <td>TET (K)</td><td>% Core Mass Flow (W26)</td></tr> <tr> <td>1000</td><td>16.9 (HPC 6)</td></tr> <tr> <td>1500</td><td>16.9 (HPC 6)</td></tr> <tr> <td>1655</td><td>11.3 (HPC 6/IPC 8)</td></tr> <tr> <td>1708</td><td>9.5 (IPC 8)</td></tr> <tr> <td>1725</td><td>7.2 (IPC 8)</td></tr> <tr> <td>1835 and above</td><td>4.95 (IPC 8)</td></tr> </table>	Engine Power Setting	Maximum Normal Cabin Air Bleed	Turbine Entry Temperature (TET (K))	% Core Mass Flow (W26)	1000	15.8 (HPC 6)	1260	15.8 (HPC 6)	1600	5.6 (HPC 6 or IPC 8)	1708	4.3 (IPC 8)	1740	3.2 (IPC 8)	1835 and above	2.35 (IPC 8)	Engine Power Setting	Maximum Abnormal Cabin Air Bleed	TET (K)	% Core Mass Flow (W26)	1000	16.9 (HPC 6)	1500	16.9 (HPC 6)	1655	11.3 (HPC 6/IPC 8)	1708	9.5 (IPC 8)	1725	7.2 (IPC 8)	1835 and above	4.95 (IPC 8)
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<p>NOTE 22.</p>	<p>ROTOR DISK INTEGRITY AND ROTOR BLADE CONTAINMENT See the following for applicable conditions and limitations: Exemption to § 33.27(f)(6), No. 17413 dated July 28, 2017 Exemption to § 33.27(c)(2)(v), No. 17864 dated June 13, 2018 Exemption to §§ 33.14 and 33.83(d), No. 18082 dated December 13, 2018</p>																																
<p>NOTE 23.</p>	<p><u>All engine models except the Trent7000-72 and Trent7000-72C</u></p> <p>These engines are fitted with a Digital Electronic Engine Fuel Control system in which the software is designated as follows according to EUROCAE ED-12B/RTCA DO178B:</p> <ul style="list-style-type: none"> • EEC: Level “A”. • EMU: Level “E”, except that the flight deck vibration display is Level “C”. <p><u>Trent7000-72, Trent7000-72C</u></p> <p>These engines are fitted with a Digital Electronic Engine Fuel Control system in which the software is designated as follows:</p> <ul style="list-style-type: none"> • EEC is designated EUROCAE ED-12B/RTCA DO178B Level “A”. • EMU is designated EUROCAE ED-12C/RTCA DO178C Level “C”. 																																

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